



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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Applicant : Anastasios Melis et al

Atty Dkt. No. 99-29

Serial No. : 09/748,690

Filing Date: 12/22/00

Group Art: 1651

Examiner: V. Afremova

Title: HYDROGEN PRODUCTION USING  
HYDROGENASE-CONTAINING  
OXYGENIC PHOTOSYNTHETIC  
ORGANISMS

PRELIMINARY AMENDMENT

Commissioner of Patents and Trademarks  
Washington, D.C. 20231

Sir:

In advance of prosecution, and before the application is taken up for examination the merits, please amend the claims as follows:

IN THE CLAIMS:

1. (Twice Amended) A reversible physiological process for temporal separation of oxygen evolution to avoid deactivation of hydrogenase in the presence of oxygen and sustain photosynthetic hydrogen production in cells of an algal microorganism, comprising:

(a) growing a culture of [the] cells of [the] algal microorganism in a medium under illuminated conditions to accumulate an endogenous substrate;

(b) depleting a nutrient selected from the group consisting of sulfur, iron, and/or manganese from the medium (until the culture of cells of algal microorganism becomes anaerobic) and (sealing the culture from atmospheric oxygen;